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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,423	11/26/2003	Gerard M. Jensen	01992.005US1	6232

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EXAMINER	
KISHORE, GOLLAMUDI S	
ART UNIT	PAPER NUMBER
1615	
MAIL DATE	DELIVERY MODE
11/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/723,423	JENSEN ET AL.	
	Examiner	Art Unit	
	Gollamudi S. Kishore, Ph.D	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *24-30 and 39-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24-30 and 39-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The amendment dated 9-14-07 is acknowledged.

Claims included in the prosecution are 24-30 and 39-53.

In view of the amendments to the claims, the 102 rejections and the 103 rejection over Abra are withdrawn.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 24-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is confusing. It recites two functional limitations 1 and 2, which contradict each other in terms of half-life. The same is the case with the other independent claims.

Applicant's arguments have been fully considered, but are not found to be persuasive. Applicant argues that the specification shows two embodiments and in one embodiment, the invention provides agents encapsulated in liposomes that provide an elimination half-life that is at least as great as the value of the free drug, and an upper value of less than 14 hours. This argument is not persuasive since the claims recite on specific composition and therefore, only one elimination time is possible. If applicant intended to convey that the elimination time is less than 14 hours, then applicant should have recited only this function and not both. The rejection is maintained.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 24-39 and 39- 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lopez-Berestein cited above.

Lopez-Berestein discloses liposomes containing polyene antibiotics which include amikacin. The liposomal formulations contain various claimed phospholipids and cholesterol. The phospholipids include DSPC, DEPC, DMPC, DOPC and phosphatidylglycerols. The liposomes are either unilamellar or multilamellar. The liposomes are administered parenterally. The lipid-drug ratios and the lipid-cholesterol ratios disclosed by Lopez-Berestein fall within the claimed ratios (abstract; col. 7, line 49 through col. 8, line 13; col. 8, lines 34-66; col. 9, lines 15-47; Table 5; Examples, in particular Example 3, 15 and claims).. Lopez-Berestein does not teach all of the claimed ratios with respect to the phospholipids and cholesterol and the lipid and the drug. However, in the absence of showing unexpected results, it is deemed obvious to one of ordinary skill in the art to vary the amounts of the lipids, cholesterol and drug from the guidance provided by Lopez-Berestein to obtain the best possible results. Similarly, although Lopez-Berestein in examples uses DMPG, in view of his generic teachings of

the use of phosphatidylglycerols, one would be motivated to use a specific phosphatidylglycerol such as DSPG with a reasonable expectation of success. Lopez-Berestein does not teach the encapsulation of anti-cancer drugs such as cisplatin. However, the principle of encapsulation is the same, one of ordinary skill in the art would be motivated to encapsulate cisplatin if the desired goal is to treat cancer.

Applicant's arguments have been fully considered, but are not found to be persuasive. Applicants argue that they have discovered liposomes that provide intermediate drug elimination half-lives and points out pages 15-16 of the specification and the figures. These arguments are not persuasive since Lopez-Berestein teaches basically that various phospholipids can be combined to obtain the desired liposomal formulations and provides guidance using specific combinations in specific ratios, though not the claimed combination of the specific phospholipid species. Applicant has not shown any unexpected results over the combinations taught by Lopez-Berestein in terms of half-life of the therapeutic agents. The rejection therefore, is maintained.

5. Claims 24-30 and 39-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hersch cited above.

Hersch discloses liposomes containing amino glycoside, amikacin. The liposomal formulations contain various claimed neutral phospholipids DMPC, DSPC, DPPC, anionic phospholipids and cholesterol, in particular HSPC and DSPG and cholesterol in claimed ratios. The lipid-drug ratios fall within the claimed amounts. The liposomal sizes are less than 100 nm. The method disclosed includes IV injection into

mice. The method also includes patients (humans) (abstract; col. 3, line 65 through col. 6, line 63; Examples and claims). Hersch does not teach all of the claimed ratios with respect to the phospholipids and cholesterol and the lipid and the drug. However, in the absence of showing unexpected results, it is deemed obvious to one of ordinary skill in the art to vary the amounts of the lipids, cholesterol and drug from the guidance provided by Hersch to obtain the best possible results. Hersch also does not teach the encapsulation of anti-cancer drugs such as cisplatin. However, the principle of encapsulation is the same, one of ordinary skill in the art would be motivated to encapsulate cisplatin if the desired goal is to treat cancer.

Applicant's arguments have been fully considered, but are not found to be persuasive. Applicants once again argue that they have discovered liposomes that provide intermediate drug elimination half-lives and points out pages 15-16 of the specification and the figures. These arguments are not persuasive since Hersch teaches basically that various phospholipids can be combined to obtain the desired liposomal formulations and provides guidance using specific combinations in specific ratios, though not the claimed combination of the specific phospholipid species. Applicant has not shown any unexpected results over the combinations taught by Hersch in terms of half-life of the therapeutic agents. The rejection therefore, is maintained.

4. Claims 24-39 and 39- 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lopez-Berestein cited above in combination with Hersch cited above.

The teachings of Lopez-Berestein have been discussed above. As pointed out above, Lopez-Berestein teaches generic phosphatidylglycerol, but not specific species such as distearoylphosphatidylglycerol (DSPG). As also pointed out above, Hersch teaches DSPG as a preferred phospholipid in combination with phosphatidylcholine. Therefore, it would have been obvious to one of ordinary skill in the art to use DSPG taught by Hersch as the specific PG in Lopez-Berestein with a reasonable expectation of success. Alternately, to include a phosphatidylcholine such as DEPC in Hersch would have been obvious to one of ordinary skill in the art with a reasonable expectation of success since Lopez-Berestein teaches that this phosphatidylcholine could be used in combination with phosphatidylglycerol.

5. Claims 29 and 44-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lopez-Berestein and Hersch individually or in combination as set forth above, further in view of Abra (5,945,122) cited in the previous action.

The teachings of Lopez-Berestein and Hersch have been discussed above. What is lacking in these references is the teaching that the active is anti-neoplastic agent such as cisplatin.

Abra as pointed out before teaches liposomal encapsulation of cisplatin. It would have been obvious to one of ordinary skill in the art to encapsulate cisplatin in the liposomes of Lopez-Berestein or Hersch with a reasonable expectation of similar encapsulation since the reference of Abra shows that this compound is routinely encapsulated in liposomes for cancer treatment.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gollamudi S. Kishore, Ph.D whose telephone number is (571) 272-0598. The examiner can normally be reached on 6:30 AM- 4 PM, alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Woodward Michael can be reached on (571) 272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gollamudi S Kishore, Ph.D
Primary Examiner
Art Unit 1615

GSK